CLAIMS

1. An apparatus adapted for a wireless communication system supporting packet data transmissions, comprising:

means for receiving a rate request indicator DRR for a mobile station;

means for determining a fairness parameter α for the mobile station;

means for calculating a projected throughput value T' for the mobile station as a function of the rate request indicator;

means for calculating a priority function for the mobile station as $DRR/(T')^{\alpha}$; and

means for scheduling transmissions to the mobile stations according to the priority functions.

2. The apparatus as in claim 1, wherein the means for calculating the priority function further comprises means for calculating the priority function using a monotonic function of $(T')^{\alpha}$.

3. The apparatus of claim 1, wherein each of the rate request indicators is a data rate request received from one of the plurality of mobile stations.

4. The apparatus of claim 1, wherein each of the rate request indicators is a carrier-to-interference ratio received from one of the plurality of mobile stations.

5. The apparatus of claim 1, further comprising:

means for transmitting data to the plurality of mobile stations in response to scheduling transmissions.

6. The apparatus of claim 1, further comprising:

means for updating the priority functions of scheduled mobile stations as a function of the rate request indicator.

7. The apparatus of claim 6, further comprising:

means for updating the priority functions of non-scheduled mobile stations assuming the rate request indicator is equal to zero.

8. An apparatus for scheduling packet data transactions in a wireless communication system, comprising:

means for determining a pool of users;

means for calculating a priority function of at least a portion of the pool of users;

means for scheduling a first set of users having pending data transactions from the portion of the pool of users;

means for receiving rate request indicators from the portion of the pool of users; and

means for updating priority functions of the first set of users as the rate request indicators divided by a function of projected throughput and a fairness parameter.

9. The apparatus of claim 8, further comprising:

means for updating a second set of users within the portion of the pool of users different from the first set of users using a rate request of zero.

10. The apparatus as in claim 8, wherein the portion of the pool of users are users having pending data.

11. The apparatus as in claim 10, wherein the first set of users comprises one user.

12. A base station apparatus comprising:

processor; and

memory storage device coupled to the processor, the memory storage device operative to store a plurality of computer readable instructions, comprising:

a first set of instructions to receive a rate request indicator DRR for a mobile station;

a second set of instructions to determine a fairness parameter α for the mobile station;

a third set of instructions to calculate a projected throughput value T' for the mobile station as a function of the rate request indicator;

a fourth set of instructions to calculate a priority function for the mobile station, wherein the priority function is a function of $DRR/(T')^{\alpha}$; and

a fifth set of instructions to schedule transmissions to the mobile stations according to the priority functions.

13. The method as in claim 12, wherein the instructions further comprise:

a sixth set of instructions to calculate the priority function further comprises calculating the priority function as a function of $DRR/(T')^{\alpha}$.